Contents of Volume 192, No. 1

Protein Biosynthesis/Molecular Genetics

Cholesteryl esters are bound by a peptide-initiation and a peptide-elongation factor	Z. TUHÁČKOVÁ & J. HRADEC	369–372

Protein Turnover

Protein degradation in skin fibroblasts from patients with Duchenne muscular dystrophy	H. E. STATHAM, J. A. WITKOWSKI & V. DUBOWITZ	257–262
Protein degradation during terminal cytodifferentiation. Studies on mammary gland in organ culture	C. J. WILDE, N. PASKIN, J. SAXTON & R. J. MAYER	311–320
Protein degradation in rat liver during post-natal development	S. M. RUSSELL, R. J. BURGESS & R. J. MAYER	321–330

Metabolism, Regulation and Control Processes

Nuclear acceptor sites for androgen–receptor complexes in seminal-vesicle epithelium	M. J. WEINBERGER & C. M. VENEZIALE	41–47
Role of propylamine transferases in hormone-induced stimulation of polyamine biosynthesis	K. KÄPYAHO, H. PÖSÖ & J. JÄNNE	59–63
The use of tritiated water to measure absolute rates of hepatic glycogen synthesis	A. D. POSTLE & D. P. BLOXHAM	65–73
Phosphatidylinositol turnover in mitogen-activated lymphocytes. Suppression by low-density lipoproteins	D. Y. HUI & J. A. K. HARMONY	91–98
Secretion, subcellular localization and metabolic status of inorganic pyrophosphate in human platelets. A major constituent of the amine-storing granules	M. H. FUKAMI, C. A. DANGELMAIER, J. S. BAUER & H. HOLMSEN	99–105
Biochemical actions of vasoactive peptide hormones. Time-synchronized activation of lipolysis and decreased fatty-acid release by bradykinin and angiotensin in the perfused rabbit kidney	M. SCHWARTZMAN & A. RAZ	127–131
Reversible ATP-induced inactivation of branched-chain 2-oxo acid dehydrogenase	R. ODESSEY	155–163
Effects of phenobarbital upon triacylglycerol metabolism in the rabbit	D. M. GOLDBERG, M. W. ROOMI, A. YU & D. A. K. RONCARI	165–175
Random, presumably hydrolytic, and lysosomal glycogenolysis in the livers of rats treated with phlorizin and of newborn rats	P. DEVOS & H.-G. HERS	177–181
Effects of fructose on the energy metabolism and acid–base status of the perfused starved-rat liver: a ^{31}phosphorus nuclear magnetic resonance study	R. A. ILES, J. R. GRIFFITHS, A. N. STEVENS, D. G. GADIAN & R. PORTEOUS	191–202
Impaired sensitivity to insulin of rat livers perfused with blood of diminished haematocrit	G. B. STORER, R. P. TRIMBLE & D. L. TOPPING	219–222
Antiserum against the catalytic subunit of adenosine 3′:5′-cyclic monophosphate-dependent protein kinase. Reactivity towards various protein kinases	G. SCHWOCH, A. HAMANN & H. HILZ	223–230
Theoretical analysis of the consequences of cyclic nucleotide phosphodiesterase negative co-operativity. Amplification and positive co-operativity of cyclic AMP accumulation	C. ERNEUX, J.-M. BOEYNAEMS & J. E. DUMONT	241–246
Changes in cyclic AMP and cyclic GMP concentrations during the action of 5-hydroxytryptamine on an insect salivary gland	J. P. HESLOP & M. J. BERRIDGE	247–255
Study of the fructose 6-phosphate/fructose 1,6-bisphosphate cycle in the liver *in vivo*	E. VAN SCHAFTINGEN, L. HUE & H.-G. HERS	263–271
Phosphatidylinositol phosphodiesterase in higher plants	R. F. IRVINE, A. J. LETCHER & R. M. C. DAWSON	279–283
The mechanism of ammonia production and the effect of mechanical work load on proteolysis and amino acid catabolism in isolated perfused rat heart	T. TAKALA, J. K. HILTUNEN & I. E. HASSINEN	285–295

The effect of cycloheximide on the glycosylation of lactating-rabbit mammary glycoproteins	D. A. WHITE & B. K. SPEAKE	297–301
Chemical structure and biodegradability of halogenated aromatic compounds. Halogenated muconic acids as intermediates	E. SCHMIDT, G. REMBERG & H.-J. KNACKMUSS	331–337
Chemical structure and biodegradability of halogenated aromatic compounds. Conversion of chlorinated muconic acids into maleoylacetic acid	E. SCHMIDT & H.-J. KNACKMUSS	339–347
Androgens regulate mitochondrial cytochrome *c* oxidase and lysosomal hydrolases in mouse-skeletal muscle	H. KOENIG, A. GOLDSTONE & C. Y. LU	349–353
Rapid inhibition of lipogenesis *in vivo* in lactating rat mammary gland by medium- or long-chain triacylglycerols and partial reversal by insulin	L. AGIUS & D. H. WILLIAMSON	361–364
Inhibition of bone resorption in culture by inhibitors of thiol proteinases	J.-M. DELAISSÉ, Y. EECKHOUT & G. VAES	365–368
Effect of glucose on carbohydrate synthesis from alanine or lactate in hepatocytes from starved rats	K. SOLANKI, F. NYFELER, U. K. MOSER & P. WALTER	377–380
Regulation of actin polymerization in rat islets of Langerhans	S. L. HOWELL & M. TYHURST	381–383
Developmental Biochemistry		
Pregnancy-related changes in rat cervical glycosaminoglycans	A. M. GOLICHOWSKI, S. R. KING & K. MASCARO	1–8
Biochemical changes during reticulocyte maturation in culture. A comparison of genetically different sheep erythrocytes	E. M. TUCKER & J. D. YOUNG	33–39
Rat embryonic and foetal erythrocytes. High 2,3-bisphosphoglycerate and ATP and low oxygen affinity *in vitro* for nucleated embryonic cells	J. G. GILMAN	355–359
Membranes, Transport, Bioenergetics and Photosynthesis		
Purification and properties of L-3-glycerophosphate dehydrogenase from pig brain mitochondria	I. R. COTTINGHAM & C. I. RAGAN	9–18
The reconstitution of L-3-glycerophosphate–cytochrome *c* oxidoreductase from L-3-glycerophosphate dehydrogenase, ubiquinone-10 and ubiquinol–cytochrome *c* oxidoreductase	I. R. COTTINGHAM & C. I. RAGAN	19–31
Albumin associated with purified pig lymphocyte plasma membrane	M. J. OWEN, B. H. BARBER, R. A. FAULKES & M. J. CRUMPTON	49–57
The transport and accumulation of adenine nucleotides during mitochondrial biogenesis	J. K. POLLAK & R. SUTTON	75–83
Variability of mammalian liver nuclear-envelope preparations	P. S. AGUTTER & C. D. GLEED	85–89
Improved purification of brine-shrimp (*Artemia salina*) ($Na^+ + K^+$)-activated adenosine triphosphatase and amino-acid and carbohydrate analyses of the isolated subunits	G. L. PETERSON & L. E. HOKIN	107–118
The effect of azaserine on glutamine uptake by rat renal brush-border membranes	B. Y.-L. HSU, C. M. MARSHALL, P. D. MCNAMARA & S. SEGAL	119–126
Surface-membrane biogenesis in rat intestinal epithelial cells at different stages of maturation	A. QUARONI, K. KIRSCH, A. HERSCOVICS & K. J. ISSELBACHER	133–144
Characterization of glycopeptides labelled from D-[2-^{3}H]mannose and L-[6-^{3}H]fucose in intestinal epithelial cell membranes during differentiation	A. HERSCOVICS, B. BUGGE, A. QUARONI & K. KIRSCH	145–153
Effects of ionophores and metabolic inhibitors on the mitochondrial membrane potential within isolated hepatocytes as measured with the safranine method	K. E. O. ÅKERMAN & J. O. JÄRVISALO	183–190
The H^+/e^- stoicheiometry of respiration-linked proton translocation in the cytochrome system of mitochondria	S. PAPA, F. GUERRIERI, M. LORUSSO, G. IZZO, D. BOFFOLI, F. CAPUANO, N. CAPITANIO & N. ALTAMURA	203–218

The location of dissimilatory nitrite reductase and the control of dissimilatory nitrate reductase by oxygen in *Paracoccus denitrificans*	P. R. ALEFOUNDER & S. J. FERGUSON	231–240
Stoichiometry of catecholamine/protein exchange across the chromaffin-granule membrane	J. H. PHILLIPS & D. K. APPS	273–278
Hydroperoxide-induced chemiluminescence of the perfused lung	E. CADENAS, I. D. ARAD, A. B. FISHER, A. BOVERIS & B. CHANCE	303–309
Transport of D-fructose and D-galactose into isolated rat hepatocytes	J. D. CRAIK & K. R. F. ELLIOTT	373–375

Contents of Volume 192, No. 2

Protein Biosynthesis/Molecular Genetics

Relative distribution of post-nuclear poly(A)-containing RNA abundance groups within the nuclear and post-nuclear polyadenylated and non-polyadenylated RNA populations of the lactating guinea-pig mammary gland	I. C. BATHURST, R. K. CRAIG, D. G. HERRIES & P. N. CAMPBELL	489–498
The inhibitory action of L-dihydroxyphenylalanine (L-dopa) in the presence of a monoamine oxidase inhibitor on protein synthesis *in vivo* and the partial amelioration of this by methionine supplementation	A. H. BONE & H. R. TAUFEK	703–707

Protein Turnover

General characteristics of normal and stress-enhanced protein degradation in *Lemna minor* (duckweed)	R. J. COOKE & D. D. DAVIES	499–506
Biosynthesis of rat liver pyruvate kinase. Measurement of enzyme lifetime and the rate of synthesis at weaning	T. J. HOPKIRK & D. P. BLOXHAM	507–516
Measurement of the rates of protein synthesis in rabbits. A method for the estimation of rates of change in the specific radioactivities of free amino acids during continuous infusions	G. E. LOBLEY, S. P. ROBINS, R. M. PALMER & I. MCDONALD	623–629
Measurement of the synthesis rates of collagens and total protein in rabbit muscle	R. M. PALMER, S. P. ROBINS & G. E. LOBLEY	631–636
A rapid and convenient technique for measuring the rate of protein synthesis in tissues by injection of [^{3}H]phenylalanine	P. J. GARLICK, M. A. MCNURLAN & V. R. PREEDY	719–723

Metabolism, Regulation and Control Processes

Correlation of nuclear acceptor sites for oestrogen receptors with gene transcription *in vitro*	R. N. TAYLOR, G. E. SWANECK & R. G. SMITH	385–393
Regulation of heparan sulphate metabolism by adenosine 3′:5′-cyclic monophosphate in hepatocytes in culture	P. R. SUDHAKARAN, W. SINN & K. VON FIGURA	395–402
Tryptophan pyrrolase in haem regulation. Experiments with administered haematin and the relationship between the haem saturation of tryptophan pyrrolase and the activity of 5-aminolaevulinate synthase in rat liver	A. N. WELCH & A. A.-B. BADAWY	403–410
The effect of hyperphenylalaninaemia on glycine metabolism in developing rat brain	C. E. ISAACS & O. GREENGARD	441–448
Inhibition of rat brain tryptophan metabolism by ethanol withdrawal and possible involvement of the enhanced liver tryptophan pyrrolase activity	A. A.-B. BADAWY, N. F. PUNJANI, C. M. EVANS & M. EVANS	449–455
Use of a novel rapid preparation of fat-cell plasma membranes employing Percoll to investigate the effects of insulin and adrenaline on membrane protein phosphorylation within intact fat-cells	G. J. BELSHAM, R. M. DENTON & M. J. A. TANNER	457–467
Studies on the incorporation of [^{32}P]phosphate into pyruvate dehydrogenase in intact rat fat-cells. Effects of insulin	W. A. HUGHES, R. W. BROWNSEY & R. M. DENTON	469–481

The latent collagenase and gelatinase of human polymorphonuclear neutrophil leucocytes	G. MURPHY, U. BRETZ, M. BAGGIOLINI & J. J. REYNOLDS	517–525
The preparation and purification of isolated rat corpus-luteum cells and their use in studying the relationship between cholesterol biosynthesis and the lutropin-stimulated formation of progesterone	B. C. MCNAMARA, C. E. G. CRANNA, R. BOOTH & D. A. STANSFIELD	559–567
Reduced lysyl oxidase activity in skin fibroblasts from patients with Menkes' syndrome	P. M. ROYCE, J. CAMAKARIS & D. M. DANKS	579–586
Metal ion interactions in the control of haem oxygenase induction in liver and kidney	G. S. DRUMMOND & A. KAPPAS	637–648
The metabolism of L-tryptophan by isolated rat liver cells. Quantification of the relative importance of, and the effect of nutritional status on, the individual pathways of tryptophan metabolism	S. A. SMITH, F. P. A. CARR & C. I. POGSON	673–686
Interrelationship of glycogen metabolism and lactose synthesis in mammary epithelial cells of mice	J. T. EMERMAN, J. C. BARTLEY & M. J. BISSELL	695–702
Changes in sterol biosynthesis accompanying cessation of glial cell growth in serum-free medium	W. A. MALTESE, B. A. REITZ & J. J. VOLPE	709–717
Ornithine decarboxylase activity in insulin-deficient states	C. A. CONOVER, S. J. ROZOVSKI, E. R. BELUR, T. T. AOKI & N. B. RUDERMAN	725–732
The regulation of pyruvate oxidation during membrane depolarization of rat brain synaptosomes	W. T. SCHAFFER & M. S. OLSON	741–751
Nucleocytoplasmic transport of RNA. The effect of 3′-deoxyadenosine triphosphate on RNA release from isolated nuclei	R. F. KLETZIEN	753–759
Thyroid-hormone effects on ornithine decarboxylase	E. W. CHIDECKEL, S. J. ROZOVSKI & E. R. BELUR	765–767
Cell Surfaces and Receptors		
The determination and localization of sialic acid in guinea-pig granulocytes	J. W. DEPIERRE, J. LAZDINS & M. L. KARNOVSKY	543–550
The role of extra-hepatic tissues in the receptor-mediated plasma clearance of glycoproteins terminated by mannose or *N*-acetylglucosamine	P. H. SCHLESINGER, J. S. RODMAN, T. W. DOEBBER, P. D. STAHL, Y. C. LEE, C. P. STOWELL & T. B. KUHLENSCHMIDT	597–606
Fluid endocytosis by rat liver and spleen. Experiments with ^{125}I-labelled poly(vinylpyrrolidone) *in vivo*	J. MUNNIKSMA, M. NOTEBORN, T. KOOISTRA, S. STIENSTRA, J. M. W. BOUMA, M. GRUBER, A. BROUWER, D. PRAANING-VAN DALEN & D. L. KNOOK	613–621
Developmental Biochemistry		
The role of glycogen synthase phosphatase in the glucocorticoid-induced deposition of glycogen in foetal rat liver	F. VANSTAPEL, F. DOPERÉ & W. STALMANS	607–612
Synthesis of apoprotein B of very low density lipoprotein in embryonic-chick liver. Development of responsiveness to oestrogen	S. A. NADIN-DAVIS, C. B. LAZIER, F. CAPONY & D. L. WILLIAMS	733–740
Membranes, Transport, Bioenergetics and Photosynthesis		
The two cytochromes *c* in the facultative methylotroph *Pseudomonas* AM1	D. T. O'KEEFFE & C. ANTHONY	411–419
The purification and properties of the soluble cytochromes *c* of the obligate methylotroph *Methylophilus methylotrophus*	A. R. CROSS & C. ANTHONY	421–427
The electron-transport chains of the obligate methylotroph *Methylophilus methylotrophus*	A. R. CROSS & C. ANTHONY	429–439

Isolation of α-subunits of factor F_1 from submitochondrial particles and the reconstitution of active ATPase from isolated α-subunits and β-subunits bound to the mitochondrial membrane	I. A. KOZLOV, Y. M. MILGROM & I. S. TSYBOVSKI	483–488
Subcellular localization and properties of rat liver adenosine diphosphatase	G. P. SMITH, G. D. SMITH & T. J. PETERS	527–535
Localization and some properties of phosphate-dependent glutaminase in disrupted liver mitochondria	J. D. MCGIVAN, J. H. LACEY & S. K. JOSEPH	537–542
Uptake of safranine by cardiac mitochondria. Competition with calcium ions and dependence on anions	E. J. HARRIS & H. BAUM	551–557
Biosynthesis of glycoproteins by membranes of *Acer pseudoplatanus*. Incorporation of mannose and *N*-acetylglucosamine	J. BARR & P. NORDIN	569–577
Uptake of liposomes containing the photoprotein obelin by rat isolated adipocytes. Adhesion, endocytosis or fusion?	M. B. HALLETT & A. K. CAMPBELL	587–596
Selective permeability of rat liver mitochondria to purified malate dehydrogenase isoenzymes *in vitro*	S. PASSARELLA, E. MARRA, S. DOONAN & E. QUAGLIARIELLO	649–658
Membrane proteins associated with amino acid transport by yeast (*Saccharomyces cerevisiae*)	J. R. WOODWARD & H. L. KORNBERG	659–664
Efficiency of ferredoxins and flavodoxins as mediators in systems for hydrogen evolution	M. P. FITZGERALD, L. J. ROGERS, K. K. RAO & D. O. HALL	665–672
The effect of complex-formation with polyanions on the redox properties of cytochrome *c*	L. C. PETERSEN & R. P. COX	687–693
The interrelation of the two *c*-type cytochromes in *Rhodopseudomonas sphaeroides* photosynthesis	P. M. WOOD	761–764

Contents of Volume 192, No. 3

Protein Turnover

Synthesis and catabolism of rabbit α_1-antitrypsins F and S	E. REGOECZI, A. KOJ & L. S. L. LAM	929–934
Is regulation of proteolysis associated with redox-state changes in rat skeletal muscle?	M. E. TISCHLER	963–966

Metabolism; Regulation and Control Processes

Requirement for calcium ions in acetylcholine-stimulated phosphodiesteratic cleavage of phosphatidyl-*myo*-inositol 4,5-bisphosphate in rabbit iris smooth muscle	R. A. AKHTAR & A. A. ABDEL-LATIF	783–791
On the mechanism of the glucose-induced ATP catabolism in ascites tumour cells and its reversal by pyruvate	G. GLASER, H. GILOH, J. KASIR, M. GROSS & J. MAGER	793–800
Intracellular and extracellular sites of iodination in dispersed hog thyroid cells	B. ROUSSET, C. PONCET, J. E. DUMONT & R. MORNEX	801–812
The effect of monensin on β-hexosaminidase transport in normal and I-cell fibroblasts	G. D. VLADUTIU & M. C. RATTAZZI	813–820
Uptake of phospholipid-depleted chylomicrons by the perfused rat liver	J. BORENSZTAJN, T. J. KOTLAR & B. J. MCNEILL	845–851
Effect of cyclic AMP-dependent phosphorylation on the reactivity of sulphydryl groups in cardiac sarcoplasmic reticulum	C. J. LIMAS	867–872
Control of the fructose 6-phosphate/fructose 1,6-bisphosphate cycle in isolated hepatocytes by glucose and glucagon. Role of a low-molecular-weight stimulator of phosphofructokinase	E. VAN SCHAFTINGEN, L. HUE & H.-G. HERS	887–895
Fructose 2,6-bisphosphate, the probable structure of the glucose- and glucagon-sensitive stimulator of phosphofructokinase	E. VAN SCHAFTINGEN, L. HUE & H.-G. HERS	897–901
Evidence for the participation of calmodulin in stimulus–secretion coupling in the pancreatic β-cell	J. J. GAGLIARDINO, D. E. HARRISON, M. R. CHRISTIE, E. E. GAGLIARDINO & S. J. H. ASHCROFT	919–927

Increased transcription and decreased degradation control the recovery of liver ribosomes after a period of protein starvation	R. D. Conde & M. T. Franze-Fernández	935–940
Intracellular putrescine and spermidine deprivation induces increased uptake of the natural polyamines and methylglyoxal bis(guanylhydrazone)	L. Alhonen-Hongisto, P. Seppänen & J. Jänne	941–945
Mitochondrial and cytosolic ATP/ADP ratios in isolated hepatocytes. A comparison of the digitonin method and the non-aqueous fractionation procedure	S. Soboll, T. P. M. Akerboom, W.-D. Schwenke, R. Haase & H. Sies	951–954
Differential inhibition of ketogenesis by malonyl-CoA in mitochondria from fed and starved rats	G. A. Cook, D. A. Otto & N. W. Cornell	955–958
Evaluation of malonyl-CoA in the regulation of long-chain fatty acid oxidation in the liver. Evidence for an unidentified regulatory component of the system	J. A. Ontko & M. L. Johns	959–962
Contraction in intact pig aortic strips is not always associated with phosphorylation of myosin light chains	K. J. Murray & P. J. England	967–970
Cell Surfaces and Receptors		
Calcium-activated thiol-proteinase activity in the fusion of rat erythrocytes induced by benzyl alcohol	Q. F. Ahkong, G. M. Botham, A. W. Woodward & J. A. Lucy	829–836
Ontogenic development of α-adrenergic receptors and responsiveness in white adipocytes	R. Pecquery & Y. Giudicelli	947–950
Membranes, Transport, Bioenergetics and Photosynthesis		
Studies on the stabilized ubisemiquinone species in the succinate–cytochrome *c* reductase segment of the intact mitochondrial membrane system	J. C. Salerno & T. Ohnishi	769–781
The pathway of inorganic-phosphate efflux from isolated liver mitochondria during adenosine triphosphate hydrolysis	D. D. Tyler	821–828
Studies on the mechanisms of biliary excretion of circulating glycoproteins. The carcinoembryonic antigen	P. Thomas	837–843
NADH- and NADPH-dependent lipid peroxidation in bovine heart submitochondrial particles. Dependence on the rate of electron flow in the respiratory chain and an antioxidant role of ubiquinol	R. Takayanagi, K. Takeshige & S. Minakami	853–860
Lipid peroxidation and the reduction of ADP–Fe^{3+} chelate by NADH–ubiquinone reductase preparation from bovine heart mitochondria	K. Takeshige, R. Takayanagi & S. Minakami	861–866
Calcium-ion transport by intact synaptosomes. Intrasynaptosomal compartmentation and the role of the mitochondrial membrane potential	I. D. Scott, K. E. O. Åkerman & D. G. Nicholls	873–880
Identification of the quinone species in cyanide-sensitive and cyanide-insensitive mitochondria of *Moniliella tomentosa*	J. Vanderleyden, M. Meyers & H. Verachtert	881–885
Biogenesis of hepatocyte plasma-membrane domains. Incorporation of [^{3}H]fucose into plasma-membrane and Golgi-apparatus glycoproteins	W. H. Evans, N. A. Flint & P. Vischer	903–910
Sulphate transport by H^+ symport and by the dicarboxylate carrier in mitochondria	N.-E. L. Saris	911–917
Diazobenzenesulphonate selectively abolishes stimulation of glucuronidation by UDP-*N*-acetylglucosamine	B. Haeger, R. de Brito & T. Hallinan	971–974
INDEXES		
Author Index		975–977
Subject Index		979–988